

Scaled data based on original data using

LM-41-14 Approved Method for Photometric Testing Of Indoor Fluorescent Luminaires

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: HALO COMMERCIAL

Report Number: P581513

Luminaire Tested: **HCC4S07D010SL-HM40525930-41WWW**

Issue Date: 9/9/2021

**Test Information**

Test Method: LM-41-14  
Report Number: P581513  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-2106-266-16)  
Test Lab: COOPER LIGHTING SOLUTIONS  
Issue Date: 9/9/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO COMMERCIAL  
Catalog Number: HCC4S07D010SL-HM40525930-41WWW  
Description: HALO COMMERCIAL 4" ROUND, NEW CONSTRUCTION FRAME, WITH 4" WALLWASH DISTRIBUTION, WHITE TRIM  
Light Source: (1) HIGH LUMEN LED 90CRI / 3000K CCT  
CYLINDER  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 762.9 lumens  
Efficiency: N/A  
Efficacy: 95.4 lumens/watt  
Spacing Criteria (0/90/45): 1.06 / 1.03 / 1.1  
Luminous Opening: Circular (Dia: 0.33' x H: 0')  
CIE Type: Direct

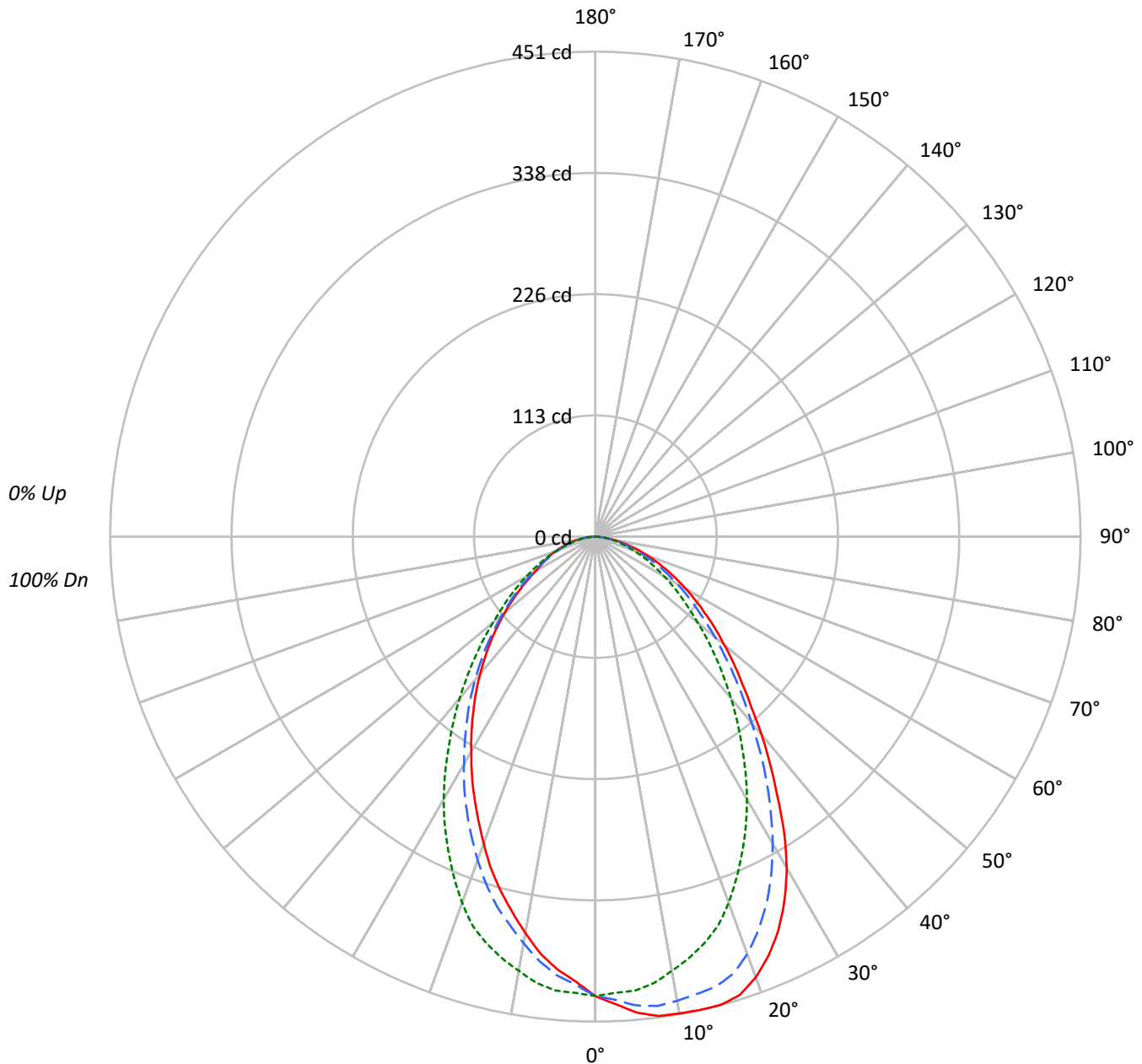
Input Watts (W): 8  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|----|
| RF  | 20  |     |     |     | 20  |     |     |     |     | 20  |     |     |     |     | 20  |     |     |     |    | 20 |
| RC  | 80  |     |     |     | 70  |     |     |     |     | 50  |     |     |     |     | 30  |     |     |     |    | 10 |
| RW  | 70  | 50  | 30  | 10  | 70  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30  | 10  | 50  | 30 | 10 |
| RCR |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |    |    |
| 0   | 119 | 119 | 119 | 119 | 116 | 116 | 116 | 116 | 111 | 111 | 111 | 106 | 106 | 106 | 102 | 102 | 102 | 100 |    |    |
| 1   | 111 | 106 | 103 | 100 | 108 | 104 | 101 | 98  | 100 | 97  | 95  | 96  | 94  | 92  | 93  | 91  | 89  | 87  |    |    |
| 2   | 102 | 95  | 89  | 84  | 100 | 93  | 88  | 83  | 90  | 85  | 81  | 87  | 83  | 80  | 84  | 81  | 78  | 76  |    |    |
| 3   | 94  | 85  | 78  | 72  | 92  | 84  | 77  | 72  | 81  | 75  | 71  | 78  | 73  | 69  | 76  | 72  | 68  | 66  |    |    |
| 4   | 87  | 77  | 69  | 63  | 85  | 76  | 68  | 63  | 73  | 67  | 62  | 71  | 66  | 61  | 69  | 64  | 60  | 58  |    |    |
| 5   | 81  | 70  | 62  | 56  | 79  | 69  | 61  | 56  | 67  | 60  | 55  | 65  | 59  | 54  | 63  | 58  | 54  | 52  |    |    |
| 6   | 76  | 64  | 56  | 50  | 74  | 63  | 55  | 50  | 61  | 54  | 49  | 59  | 53  | 49  | 58  | 53  | 48  | 47  |    |    |
| 7   | 71  | 58  | 50  | 45  | 69  | 58  | 50  | 45  | 56  | 49  | 44  | 55  | 49  | 44  | 53  | 48  | 44  | 42  |    |    |
| 8   | 66  | 54  | 46  | 41  | 65  | 53  | 46  | 41  | 52  | 45  | 40  | 51  | 45  | 40  | 50  | 44  | 40  | 38  |    |    |
| 9   | 62  | 50  | 42  | 37  | 61  | 49  | 42  | 37  | 48  | 42  | 37  | 47  | 41  | 37  | 46  | 41  | 37  | 35  |    |    |
| 10  | 59  | 46  | 39  | 34  | 57  | 46  | 39  | 34  | 45  | 38  | 34  | 44  | 38  | 34  | 43  | 38  | 34  | 32  |    |    |

**AVERAGE LUMINANCE (cd/sqm):**

|     | 0°    | 90°   | 180°  |
|-----|-------|-------|-------|
| 0°  | 52693 | 52693 | 52693 |
| 5°  | 55012 | 52461 | 50034 |
| 10° | 56399 | 51364 | 46893 |
| 15° | 57566 | 49993 | 43506 |
| 20° | 57256 | 47556 | 39838 |
| 25° | 54861 | 43986 | 36256 |
| 30° | 50690 | 40150 | 32858 |
| 35° | 44420 | 35717 | 29754 |
| 40° | 38676 | 31559 | 26793 |
| 45° | 33666 | 27526 | 23933 |
| 50° | 29973 | 23718 | 21108 |
| 55° | 26795 | 20860 | 18257 |
| 60° | 23929 | 18230 | 15739 |
| 65° | 21247 | 15965 | 14943 |
| 70° | 18681 | 13776 | 13957 |
| 75° | 15774 | 11724 | 12915 |
| 80° | 12146 | 10016 | 11791 |
| 85° | 7076  | 7925  | 10048 |



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**ZONAL LUMENS:**

| Zone      | Lumens | % Fixture |
|-----------|--------|-----------|
| 0°-10°    | 40.0   | 5.2       |
| 10°-20°   | 110.5  | 14.5      |
| 20°-30°   | 150.9  | 19.8      |
| 30°-40°   | 151.5  | 19.9      |
| 40°-50°   | 125.4  | 16.4      |
| 50°-60°   | 90.8   | 11.9      |
| 60°-70°   | 57.5   | 7.5       |
| 70°-80°   | 29.1   | 3.8       |
| 80°-90°   | 7.1    | 0.9       |
| 90°-100°  | 0.0    | 0.0       |
| 100°-110° | 0.0    | 0.0       |
| 110°-120° | 0.0    | 0.0       |
| 120°-130° | 0.0    | 0.0       |
| 130°-140° | 0.0    | 0.0       |
| 140°-150° | 0.0    | 0.0       |
| 150°-160° | 0.0    | 0.0       |
| 160°-170° | 0.0    | 0.0       |
| 170°-180° | 0.0    | 0.0       |
| 0°-30°    | 301.4  | 39.5      |
| 0°-40°    | 452.9  | 59.4      |
| 0°-60°    | 669.1  | 87.7      |
| 0°-90°    | 762.9  | 100.0     |
| 90°-120°  | 0.0    | 0.0       |
| 90°-150°  | 0.0    | 0.0       |
| 90°-180°  | 0.0    | 0.0       |
| 0°-180°   | 762.9  | 100.0     |

**CANDELA DISTRIBUTION:**

|     | 0°  | 45° | 90° | 135° | 180° | Flux |
|-----|-----|-----|-----|------|------|------|
| 0°  | 427 | 427 | 427 | 427  | 427  |      |
| 5°  | 444 | 438 | 424 | 410  | 404  | 43   |
| 15° | 451 | 433 | 392 | 355  | 341  | 127  |
| 25° | 403 | 376 | 323 | 282  | 266  | 184  |
| 35° | 295 | 277 | 237 | 208  | 198  | 185  |
| 45° | 193 | 182 | 158 | 142  | 137  | 150  |
| 55° | 125 | 114 | 97  | 88   | 85   | 112  |
| 65° | 73  | 65  | 55  | 49   | 51   | 73   |
| 75° | 33  | 29  | 25  | 26   | 27   | 35   |
| 85° | 5   | 5   | 6   | 6    | 7    | 7    |
| 90° | 0   | 0   | 0   | 0    | 0    |      |

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**CANDELA DISTRIBUTION (FULL):**

|       | 0°    | 22.5° | 45°   | 67.5° | 90°   | 112.5° | 135°  | 157.5° | 180°  |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|
| 0°    | 427.2 | 427.2 | 427.2 | 427.2 | 427.2 | 427.2  | 427.2 | 427.2  | 427.2 |
| 2.5°  | 435.2 | 433.7 | 431.2 | 428.2 | 424.7 | 420.6  | 417.1 | 415.1  | 414.1 |
| 5°    | 444.3 | 442.2 | 437.7 | 431.2 | 423.7 | 416.2  | 409.6 | 405.6  | 404.1 |
| 7.5°  | 449.7 | 446.8 | 440.3 | 430.2 | 418.7 | 407.6  | 398.1 | 392.5  | 391.0 |
| 10°   | 450.3 | 446.8 | 438.2 | 424.7 | 410.1 | 395.6  | 384.0 | 375.9  | 374.4 |
| 12.5° | 450.8 | 446.3 | 435.7 | 419.7 | 401.6 | 383.5  | 369.4 | 359.8  | 357.3 |
| 15°   | 450.8 | 446.3 | 433.2 | 414.1 | 391.5 | 370.9  | 355.3 | 344.2  | 340.7 |
| 17.5° | 446.8 | 441.8 | 426.2 | 404.1 | 379.4 | 356.3  | 338.2 | 326.7  | 323.2 |
| 20°   | 436.2 | 430.7 | 413.1 | 389.0 | 362.3 | 338.2  | 320.1 | 308.1  | 303.5 |
| 22.5° | 421.2 | 414.6 | 396.0 | 369.8 | 343.2 | 318.6  | 301.0 | 288.5  | 284.5 |
| 25°   | 403.1 | 396.5 | 376.5 | 350.7 | 323.2 | 300.0  | 282.5 | 270.8  | 266.4 |
| 27.5° | 380.9 | 373.9 | 354.3 | 328.7 | 303.0 | 279.9  | 263.8 | 253.3  | 248.8 |
| 30°   | 355.9 | 348.2 | 329.7 | 305.1 | 281.9 | 259.8  | 244.2 | 235.7  | 230.7 |
| 32.5° | 326.7 | 320.1 | 303.5 | 281.4 | 259.8 | 238.8  | 225.7 | 218.2  | 214.1 |
| 35°   | 295.0 | 291.4 | 277.4 | 258.3 | 237.2 | 219.6  | 208.0 | 201.0  | 197.6 |
| 37.5° | 266.9 | 263.3 | 251.3 | 235.2 | 216.6 | 200.5  | 191.0 | 184.9  | 182.0 |
| 40°   | 240.2 | 237.2 | 225.7 | 212.1 | 196.0 | 182.0  | 173.9 | 169.3  | 166.4 |
| 42.5° | 214.1 | 212.6 | 203.0 | 190.5 | 176.4 | 164.3  | 157.8 | 154.3  | 151.8 |
| 45°   | 193.0 | 191.0 | 182.0 | 169.9 | 157.8 | 147.7  | 142.2 | 139.7  | 137.2 |
| 47.5° | 174.3 | 171.8 | 162.3 | 151.8 | 140.8 | 131.7  | 126.7 | 124.2  | 123.1 |
| 50°   | 156.2 | 153.7 | 145.2 | 134.7 | 123.6 | 117.1  | 113.1 | 110.6  | 110.0 |
| 52.5° | 140.2 | 137.7 | 128.1 | 118.1 | 109.6 | 104.0  | 100.5 | 98.0   | 97.0  |
| 55°   | 124.6 | 121.7 | 113.6 | 104.0 | 97.0  | 92.0   | 88.4  | 85.9   | 84.9  |
| 57.5° | 110.6 | 107.5 | 100.5 | 91.5  | 84.9  | 80.5   | 77.4  | 74.9   | 73.9  |
| 60°   | 97.0  | 94.5  | 88.0  | 79.4  | 73.9  | 69.9   | 66.8  | 64.9   | 63.8  |
| 62.5° | 84.4  | 82.4  | 75.9  | 68.4  | 63.8  | 60.3   | 57.8  | 55.8   | 56.8  |
| 65°   | 72.8  | 70.9  | 64.9  | 58.3  | 54.7  | 51.2   | 49.3  | 49.3   | 51.2  |
| 67.5° | 61.8  | 59.9  | 54.7  | 49.3  | 46.2  | 43.7   | 42.2  | 43.7   | 45.2  |
| 70°   | 51.8  | 49.7  | 45.2  | 40.7  | 38.2  | 36.2   | 36.2  | 37.7   | 38.7  |
| 72.5° | 42.2  | 40.2  | 36.6  | 33.1  | 31.2  | 29.7   | 31.2  | 32.2   | 33.1  |
| 75°   | 33.1  | 31.6  | 28.7  | 26.2  | 24.6  | 24.1   | 25.6  | 26.6   | 27.1  |
| 77.5° | 24.6  | 23.7  | 21.6  | 19.6  | 18.5  | 19.1   | 20.6  | 21.1   | 21.6  |
| 80°   | 17.1  | 16.6  | 15.0  | 14.1  | 14.1  | 14.6   | 15.6  | 16.0   | 16.6  |
| 82.5° | 10.6  | 10.6  | 9.6   | 9.0   | 9.6   | 10.6   | 11.0  | 11.6   | 11.6  |
| 85°   | 5.0   | 5.6   | 5.0   | 5.0   | 5.6   | 6.5    | 6.5   | 7.1    | 7.1   |
| 87.5° | 1.5   | 1.5   | 2.0   | 2.0   | 2.5   | 2.5    | 2.5   | 2.5    | 3.0   |
| 90°   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0    | 0.0   | 0.0    | 0.0   |

Classified

Scaled Data Report

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



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Peachtree City, GA 30269

Scaled Data Report



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Scaled Data Report

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1121 Highway 74 South

Peachtree City, GA 30269



— 0°-180°    - - 45°-225°    - - - 90°-270°

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Scaled Data Report



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